A NEW SUBGENUS OF ANDRENINE BEES

BY T. D. A. COCKERELL

I am greatly indebted to Mr. P. H. Timberlake for permission to study and describe another of his remarkable discoveries. It is an Andrenine bee, which is so peculiar that when a specimen was submitted to a well-known authority some years ago, it was declared to be apparently a new genus of Panurgidæ.

Ancylandrena Cockerell, new subgenus of Andrena

Medium-sized bees, with the general characters of Andrena; the male with abundant long erect hair on head, thorax and abdomen; face with a pale band along each inner orbit; ocelli in a slight curve; cheeks rounded, not toothed; antennæ ordinary, third joint (which has short brownish hair on upper side) much longer than fourth, but not so long as fourth and fifth; the second and third joints are dull and rugosopunctate, contrasting with the very minutely sculptured, somewhat shining joints beyond; last joint obliquely truncate at apex; malar space practically obsolete; mandibles ordinary; briefly bidentate; labrum transverse, with a crescentic sulcus, its lower margin with long straight orange hairs; maxillary palpi long, six-jointed, the joints more or less equal, but the fifth much shorter than fourth or sixth, and the second distinctly shorter than first; labial palpi ordinary; tongue very short, pointed; anterior wings with small lanceolate stigma; marginal cell ending obtusely just below costa; basal nervure almost meeting intercubitus, but a very little distad of it, three cubital cells, the second large and subquadrate, receiving the first recurrent nervure near its apex; legs ordinary; pygidial plate large and pointed; genitalia peculiar, the claspers with a large tubercle below, the saggittæ represented by a long curved swordlike structure (whence the subgeneric name), extending forward;[1] the seventh ventral plate terminates in a crescentic structure, beset with long hairs; the eighth plate is not notched.

Female with the shining clypeus flattened on disc; malar space very short but evident; labrum obtusely binodose; antennæ with third joint very long, longer than next two together; facial foveæ very short, not extending down to level of antennæ, overlapped by long hairs; lower part of eyes with scattered hairs; area of metathorax smooth and shining; abdomen with well-defined hair bands; scopa of hind legs dense and compact, the hairs nearly all simple.

I do not find any hair on the eyes of the male. There has been some question about the association of the sexes, but apparently they belong together, as they are sufficiently alike,

[1] Mr. E. Nelson points out to me that the otherwise very different Andrena cratægi Rob. has a similar downwardly directed structure.

fly at the same time, and there is nothing else known in the fauna to associate with either.

In Robertson's system this falls nearest to Opandrena, to which it seems really to be related. It is an isolated type, and until or unless more species are found it will be difficult to say how many of the above characters should be included in the diagnosis of the subgenus. The relationship seems to be North American entirely. I find nothing similar in the Asiatic fauna.[2]

Andrena (Ancylandrena) heterodoxa Cockerell
new species

Male (type). Length about 8.5 to 10 mm.; black, with a creamy-white band along each anterior orbit, rather broad just above mandibles, gradually narrowing, and coming to a point just below level of antennæ; head broad, facial quadrangle about square; clypeus and sides of vertex shining; face, front and cheeks covered with very long white hair; vertex with long black hairs, but also some pale; disc of mesothorax brilliantly polished, the punctures scattered and feeble, but the marginal areas are dullish; scutellum moderately shining; area of metathorax triangular, shining, with a transverse ridge; thorax with abundant long white hair, mixed with black dorsally, giving a gray effect; tegulæ shining black; wings hyaline, with very dark nervures and stigma; legs with white hair, creamy white on inner side of hind basitarsi; abdomen dullish; closely and rather coarsely punctured, the edges above the apical depressions rather swollen; second tergite in middle depressed about a third; depressed portions punctured, their hind margins with extremely narrow pallid bands; tergites with long erect white hair, faintly stained with brownish; white marginal hair bands fairly distinct on third and fourth, and well developed on fifth; apex with white hair; venter shining.

Female. Length about 11 mm.; facial foveæ pale reddish; vertex and disc of thorax (invading middle of scutellum) with much black hair; legs with mainly white hair, the scopa of hind legs shining; anterior tarsi with hair soft gray or dilute black on outer side, pale orange on inner; middle and hind tarsi with white hair, fulvous at apex of basitarsi within; spurs light ferruginous; abdomen shining, first tergite with long white hair, second to fourth with thin short black hair; but tergites 1 to 6 with broad pure white hair bands, more or less interrupted on first; caudal fimbria pale gray; second

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2 The old World Ancyla has marginal cell ending far from costa; hind legs of male peculiar.

tergite in middle depressed considerably more than half, the margin of the depression strongly arcuate, so that it is narrow at the sides; venter with white hair bands. The third and fourth tergites have a band of pale hair at the base. The flagellum is distinctly rufescent beneath.

Type (male) at flowers of *Cryptanthe intermedia,* Riverside, California, April 25, 1930 (Timberlake). Another male at *Eriogonum fasciculatum,* May 20, 1926. Females at *Lupinus paynei,* May 11, 1929; also at *Lotus scoparius* and *Hugelia virgata.**

The male will be easily recognized by the peculiar face markings. The following table separates the female from others more or less similar in appearance, being of medium size, and with conspicuous hair bands.

Caudal fimbria dusky chocolate color or gray 1
Caudal fimbria pale 4

1. Wings very dark; abdominal bands fulvous-tinted; basal nervures going basad of nervules ..... *fulvipennis* Smith
   Wings not dark; basal nervures meeting or (some *sapellonis*) falling short of nervules 2
2. Disc of mesothorax with black hair ..... *heterodoxa* n. sp.
   (Compare also *peckhami* Cockerell.)
   Disc of mesothorax without black hair 3
3. Clypeus dullish, with a median ridge ..... *sapellonis* Ckll.
   Clypeus polished without median ridge ..... *electrica* Casad and Ckll.
4. Flagellum, except basally, bright ferruginous beneath 5
   Flagellum dark 6
5. Larger; abdomen highly polished ..... *gardinari* Ckll.
   (Equally large; flagellum obscure red beneath, abdomen finely punctured ..... *ellisiæ* Ckll.)
   (Stigma small; flagellum obscurely reddish beneath ..... *relatia* Vier.)
   Smaller; abdomen less polished, but mesothorax posteriorly and scutellum brilliantly polished and impunctate ..... *persimilis* Graenischer
   (Also smallish, flagellum very obscurely reddened, but mesothorax posteriorly and scutellum polished in same fashion; clypeus with a median ridge, not present in *persimilis.* Two cubital cells ..... *gibberis* Vier.)

* Since submitting the above material to Dr. Cockerell, another male was taken May 5 on Cryptanthe, at Riverside, California, and on May 15 Mr. C. M. Dammers and the writer collected seven males at flowers of Calochortus splendens on the Gavilan Mesa about fifteen miles south of Riverside.—P. H. Timberlake.

6. Mesothorax with short velvety tomentum.....*coachipostica* Vier.
(See also *plana* Vier., with chocolate fimbria.)
Mesothorax without such tomentum.....7
7. Mesothorax entirely dull.....8
(Dull in front; clypeus with a ridge.....*ellisiæ* Ckll.)
Mesothorax more or less shining.....9
8. Clypeus dull (Los Angeles, California; Coquillett).....
.....*mustelicolor huardi* Vier.
Clypeus highly polished in middle (Texas, Bellfrage).....
.....*relativa* Vier.
9. Clypeus dull; wings fuliginous.....10
(Wings with dusky cloud at apex.....*fracta* Casad and Ckll.)
Clypeus shining.....11
10. Tegulæ reddish black (Stanford University, California, March, on mustard).....*scurra* Vier.
Tegulæ testaceous (Southern California).....
.....*davidsoni* Vier. and Ckll.
11. Upper part of clypeus flattened, no median ridge; basal nervure meeting nervulus.....*sieverti* Ckll.
Clypeus with a median ridge.....12
12. Larger; three cubital cells.....*ellisiæ* Ckll.
Smaller; two cubital cells.....*gibberis* Vier.

Lepidomys irrenosa Guenée (Lepidoptera)

In arranging the Noctuidæ in the collection of the California Academy of Sciences I found in the Koebele collection a little moth bearing the above name. It agrees in every respect with Guenée's description, except that it is more ochraceous than one would expect from that description, but it is strongly tinted with wine color, especially toward the apex of the wings. This specimen was taken by Mr. Koebele in Florida. Guenée says his type, a unique, was from New York and was taken by Doubleday. Dr. J. B. Smith (1893) says this type bears but one label, "Doubleday," with no mention of locality, and strongly suspects the insect to be tropical. Perhaps on the strength of this it was omitted from the Dyar and the Barnes and Mcdonnough lists. So far as I can learn there has been no recorded capture of a second specimen. It must now be re-established in our North American lists.—E. P. Van Duzee.